

Simple Commissioning Guide EC75 Series Engineering Frequency Converter



1、Commissioning method

1.1 Commissioning of frequency converters/inverters with operating panels



EC750/1 basic operating panel as standard (EC750Z-P02)

1.2 Quick Commissioning

The quick commissioning function mainly completes the matching between the frequency converter/inverter and the motor and the setting of important technical parameters. If the parameters in the frequency converter/inverter are not suitable, then to carry out open and closed loop vector control or V/f control, it is necessary to carry out quick commissioning and motor parameter operation. The mechanical and electrical installation of the frequency converter/inverter must be completed prior to the "quick commissioning". The following operating components are available for quick commissioning:

•operation panel

•PC tools (debugging software DriveInspector installed).

Once you have completed the quick commissioning, you have also completed the basic commissioning of the motor-frequency converter/inverter; you must have



the following data or have already entered them into the frequency converter/inverter before commissioning begins:

-Input incoming power supply voltage and frequency•电机铭牌数据

-Command/set value source

-Upper/lower frequency limits and acceleration/deceleration ramp times

-Frequency converter/inverter control mode

-Motor parameter identification





Getting Started with Quick Setup

visiting level:

0: user level 1: standard grade

2: extension level 3: expert level

serial number

Fill in the model number of the frequency converter/ inverter to be used.

Reference frequency (Hz)

Sets the reference for internal calculations and the given frequency percentage, typically set to 50Hz.

Upper frequency limit (Hz)

Set the upper limit of inverter output frequency, set value range:-P0206.F~P0206.F*2, when this frequency is reached the motor running speed will be independent of the set value of frequency.

Lower frequency limit (Hz)

Set the lower limit of inverter output frequency, set value range: -2*P0206.F ^P0206.F. When this frequency is reached, the running speed of motor will be independent of the set value of frequency.

Acceleration time (s)

Defines the time required for the ramp function to accelerate from OHz to the reference frequency (P0206.F). Setting value range: $0,\,0^{\sim}1200,\,0s$

Deceleration time (s)

Defines the time required for the ramp function to decelerate from the reference frequency (P0206.F) to 0Hz. Setting value range: 0.0 to 1200.0s

Motor rated power (kW) Set the motor rating on the nameplate.

Motor rated voltage (V)

Set the rated motor voltage on the nameplate.

Motor rated current (A)

Set the rated motor current on the nameplate.

Motor rated frequency (Hz) Set the rated frequency of the motor on the nameplate.

Motor rated speed (rpm) Set the rated motor speed on the nameplate.

Number of motor pole pairs Set the number of motor pole pairs, e.g. 2 for a 4-pole motor.

Motor power factor Set the motor power factor on the nameplate.









Quick Commissioning Flowchart

Note: EC7 sets up grouped parameters, and only the first group of parameters is set up in the grouped parameter fast debugging flowchart.



2. functional diagram







EC570-002 VF control











EC750/1-004 point and click operation



EC750/1-005 tacho loop



EC750/1-006 current ring





EC750/1-007





EC750/1-008 hopping frequency





slope function

EC750/1-009





Speed feedback

EC750/1-010





EC750/1-011 Excitation current given



Analogue output sampling time 0∼1000ms P2150.F(0)

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Analogue output sampling time 0~1000ms P2150.F(0)

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EC750/1-016(02) Switching input and output

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EC750/1-021 sag control

EC750/1-022 Maximum and minimum bus voltage controller (vector control)

				Control word 1
				Connector for
		Bit num	meaning	W0091
Control word 1:0 (start/stop command)	P3809.B B	BitO	0→1, Starting Command 1→0, shutdown command	Control word 1 bit0 Connector B00 34
Control word 1:1 (free stop)	P3810.B B	Bit1	=1, Free Standing Order	Control word 1 bit1 Connector B0035
Control word 1:2 (reverse command)	P3811.B B	Bit2	=1, Target frequency inversion	Control word 1 bit2 Connector B00 36
Control Word 1:3 (Tap command)	P3812.B	Bit3	0→1,Tap to run command =0,Tap to stop command	Control word 1 bit3 Connector B00 37
Control words 1:4 (fault reset)	P3813.B B	Bit4	$0 \rightarrow 1$, Clear Troubleshooting Command	Control word 1 bit4 connector B00 38
Control word 1:5 (ramp function disabled)	P3814.B B	Bit5	=1, The ramp function prohibits	Control word 1 bit5 connector B00 39
Control word 1:6 (quick stop)	P3815.B	Bit6	=1, Quick stop order	Control word 1 bit6 Connector B0040
Control word 1:7 (external alarm input 1)	P3816.B	Bit7	=0, External alarm 1	Control word 1 bit7 Connector B0041
Control word 1:8 (external fault input 1)	P3817.B) B ►	Bit8	=0, External fault 1	Control word 1 bit8 connector B0042
Control words 1:9 (zero servo enable)	P3818.B	Bit9	=1, Zero servo enable	Control word 1 bit9 Connector B0043
Control word 1:10 (acceleration and deceleration disabled)	P3819.B B	Bit10	=1, Acceleration and deceleration prohibited	Control word 1 bit10 Connector B0044
Control word 1:11 (swing reset)	P3820.B	Bit11	=1, Oscillation frequency reset	Control word 1 bit11 Connector B0045
Control word 1:12 (pendulum frequency input)	P3821.B B	Bit12	=1, swing input	Control word 1 bit12 Connector B0046
Control word 1:13 (external alarm input 2)	P3822.B	Bit13	=0, External alarm 2	Control word 1 bit1 3 Connector B0047
Control word 1:14 (external fault input 2)	P3823.B) B ►	Bit14	=0, External fault 2	Control word 1 bit14 Connector B0048
Control word 1:15 (reserved)	P3824.B B	Bit15	reserve	Control word 1 bit15 Connector B0049

EC750/1-024

Control word 1

				Control word 2 r3802 Connector for T control word 2
		Bit num	meaning	W0092
Control word 2:0 multispeed terminal 1)	P3825.B B	BitO	Multi-stage speed terminal 1	Control word 2 bit0 Connector B0091
Control word 2:1 multispeed terminal 2)	P 3826.B	Bit1	Multi-stage speed terminal 2	Control word 2 bit
Control word 2:2 multispeed terminal 3)	P3827.B	Bit2	Multi-stage speed terminal 3	connector B0093
Control word 2:3 multispeed terminal 4)	P3828.B	Bit3	Multi-stage speed terminal 4	Control Word 2 bits Connector B0094
vord 2:4 (Acceleration eration time selection terminal 1)	P 3829.B	Bit4	Multi-speed time selection terminal 1	Control word 2 bit4 connector B0095
ord 2:5 (Acceleration eration time selection terminal 2)	P 38 30.B	Bit5	Multi-speed time selection terminal 2	Control word 2 bits connector B0096
ord 2:6 (Acceleration eration time selection terminal 3)	P3831.B) B	Bit6	Multi-speed time selection terminal 3	Control Word 2 bits connector B0097
vord 2:7 (Acceleration eration time selection terminal 4)	P3832.B) B	Bit7	Multi-speed time selection terminal 4	Control Word 2 bit/ connector B0098
word 2:8 (function group selection bit 0)	P3833.B) B	Bit8	Function parameter group selection bit 0	Control word 2 bit8 connector B0099
word 2:9 (Function group selection bit 1)	P3834.B) B	Bit9	Function parameter group selection bit 1	Control word 2 bit9 connector B0100
word 2:10 (motor group selection bit 0)	P 38 35.B	Bit10	Motor parameter group selection bit 0	Control word 2 bit10 connector B0101
word 2:11 (motor group selection bit 1)	P 38 36.B	Bit11	Motor parameter group selection bit 1	Control Word 2 bit 1 connector B0102
trol word 2:12 mection parameter p selection bit)	P3837.B B	Bit12	Interconnection Parameter Group Selection Bits	Control word 2 bit12 connector B0103
Control word 2:13 (reserved)	P 38 38.B	Bit13	reserve	Control word 2 bit13 connector B0104
Control word 2:14 (reserved)	P3839.B B	Bit14	reserve	Control word 2 bit14 connector B0105
Control word 2:15 (reserved)	P 3840.B	Bit15	reserve	Control word 2 bit15 connector B0106
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Control w and decele

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Control parameter

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Com (Intercon group

EC750/1-025 Control word 2

				Cont	trol word 3 r3803
					Connector for contro
			()		
		1	V	significance	Control word 3 hito
Control word 3:0	P3841.B				Connector
(Auxiliary frequency given) в —	н В	it0	superimposed enable	B0379
Control word 3:1					Control word 3 bit1
(auxiliary frequency given	P3842.B	В	it1	=1, Auxiliary frequency given 1	connector
1 superimposed inverse)) в			superimposed inverse	Control word 3 bit2
Control word 3:2	P3843.B	B	i+2	=1, Auxiliary frequency given 2	connector
(Auxiliary frequency given	ЪВ		112	superimposed enable	B0381
Control word 3:3				-1 Auxiliant fraguence citizen 2	Control word 3 bit3
(auxiliary frequency given	P 30444.D	н В	it3	superimposed inverse	B0382
2 superimposed inverse)				neurona de la constructione en construction en construction de la construction de	Control word 3 bit4
Control word 3:4	P3845.B	R	i+A	-1 Prohibit inverter operation	connector
(Inverter operation prohibited)) в	▶ "			B0383
					Control word 3 bit5
Control word 3:5 (reserved)	P 3040.B	► ^{Bi}	it5	reserve	B0384
(reserved)					Control word 3 bit6
Control word 3:6	P3847.B	В	it6	reserve	connector
(reserved)) в		10.00404		B0385
					control word 3 bit7
Control word 3:/ (reserved)	P 3040.B	► ^B	it/	reserve	B0386
(reserved)					Control word 3 bit8
Control word 3.8 (reserved	P3849.B	B	it8	reserve	connector
	″) в	►			Bussor Control word 2 hito
	P3850 B		D'10		connector
Control word 3:9 (reserved	B	▶ "	119	reserve	B0388
					Control word 3 bit10
Control word 3:10	P3851.B	- Bit	t10	reserve	connector
(reserved)) в				Control word 3 bit11
Control word 3.11	P3852.B	Bit	+11	reserve	connector
(reserved)	<u>Б</u> →		DILIT	leselve	B0390
					Control word 3 bit12
Control word 3:12	P3853.B	- Bit	t12	reserve	B0391
(reserved)) в				Control word 3 bit13
Control word 3:13	P3854.B	Bit	+1 3	reserve	connector
(reserved)	В			IESEIVE	B0392
					Control word 3 bit14
Control word 3:14	<u> </u>	Bit	t14	预留	B0393
(reserved)) B				Control word 3 bit15
Control word 3:15	P3856.B	Bit	t15	「葡萄	connector
(reserved)) в				B0394

EC750/1-026 Control word 3

				Status word 1
				r3805 — Connector for status
	ſ			word 1 value
		Bit num	meaning	w0257 >
				Status word 1 bit0
From control			=1, Bus voltage established	Connector
processing		Bit0	=0, Bus voltage not established	B0050
				CStatus word 1 bit1
From control		Bit1	=1. Inverter ready for operation	Connector
processing	-	0000020		Status word 1 bit?
From control			=1. normal state of operation	Connector
processing		Bit2	=0. Normal shutdown state	B0052
	-			CStatus word 1 bit3
From control		Ri+3	=1, point-to-point operation status	Connector
processing		DILD	=0, Tap to stop status	В0053)
	ł			Status word 1 bit4
From control		Bit4	=1, PLC operation status	Connector
processing			=0, PLCstop state	B0054)
From control	ľ		-1 Multi speed operation status	Connector
processing	►	Bit5	= 0. Multi-speed operation status	B0055
processing	ļ		-o; marti speed stop state	Status word 1 bit6
From control			=1, swing state	Connector
processing		Bit6	=0, Oscillation frequency stop state	B0056
1 5				CStatus word 1 bit7
From control	-	D:+7	=1, PID operational state	Connector
processing		DILI	=0, PID stop state	воо57)
	ł		2 W 7 1 1 1 1	Status word 1 bit8
From control		Bit8	=1, Torque control state	Connector
processing -			=0, Non-torque control state	B0058
			-1 Consider and an advertised of	Status word 1 bit9
From control		Bit9	=1, Speed control status	Connector
processing			-0, Non-velocity control state	Status word 1 bit10
Further and the l	[=1 DC braking in progress	Connector
From control		Bit10	=0. End of DC braking	B0060
processing	ŀ		, ,	Status word 1 bit11
From control		Ri+11	=1, Pre-excitation in progress	Connector
processing		DILLI	=0, End of pre-excitation	B0061)
	ł			Status word 1 bit12
From control		Bit12	=1, RPM tracking in progress	Connector
processing			=0, End of RPM tracking	B0062
	ľ			Status word 1 bit1 3
From control	►	Bit13	= 1, vector control	Connector R0062
processing				Status ward 1 bit14
F ()			=1 closed-loop control	Connector
From control		Bit14	=0, open loop control	B0064
processing	-			Status word 1 bit15
From control		D:+1 E	=1, Motor running in reverse	Connector
processing -		DILID	=0, Positive motor operation	B0065

EC750/1-027 Status word 1

				Status word 2 r3806 Connector for statu:
				word 2 value
		Bit num	meaning	W0258
From control processing	-	BitO	=1, Parameter identification in progress	Status word 2 bit0 Connector B0075
From control processing		Bit1	=1, Parameter recognition failure =0, Parameter recognition is normal	CStatus word 2 bit1 Connector B0076
From alarm processing		Bit2	=1, Alarm signal available	Status word 2 bit2 connector B0077
From fault processing	-	Bit3	=1, There is a fault signal	Status word 2 bit3 Connector B0078
From fault processing		Bit4	=1, overpressure stall	Status word 2 bit4 connector B0079
From fault processing		Bit5	=1, runaway velocity	Status word 2 bit5 connector B0080
From control word1		Bit6	=1, With external alarms1	CStatus word 2 bit6 Connector B0081
From control word1		Bit7	=1, With external faults1	Status word 2 bit7 connector B0082
From fault processing	-	Bit8	=1, motor stalling	Status word 2 bit8 connector B0083
From fault processing	-	Bit9	=1, Motor overspeed	Status word 2 bit9 connector B0084
From alarm processing		Bit10	=1, Inverter overload alarm	Status word 2 bit10 connector B0085
From alarm processing		Bit11	=1, Inverter over-temperature alarm	connector B0086
From control word1		Bit12	=1, Zero servo in progress	connector B0087
From control word1		Bit13	=1, With external alarm 2	Connector B0088
From control processing	-	Bit14	=1, There are external faults2	Status word 2 bit14 Connector B0089
From control processing	-	Bit15	=1, in offline PID tuning	Status word 2 bit15 connector B0090

EC750/1-028 Status word 2

				status word 3 r3807 Connector for T status word 3
		位	meanings	Values W0259 Status word 3 bit0
From control word1	->	Bit0	Fast stop command, effective level according to P8619.F	Connector B0107
From control processing	-	Bit1	=1, Torque feed to positive limit value =0, Torque given without reaching the positive limit value	Connector B0108
From control processing	-	Bit2	=1, Torque feed to negative limit value =0, Torque feed does not reach negative limit value	connector B0109
From control processing	-	Bit3	=1, Active high until torque limit is reached and additional torque is superimposed	Connector B0110
From control processing	-	Bit4	=1, Torque given up to limit value, additional torque superimposed, high level active	Status word 3 bit4 Connector B0111
From control processing	-	Bit5	=1, Speed controller integral section stop, active high	Connector B0112
From control processing	-	Bit6	=1, Speed controller integral value setting, active high	Status word 3 bit6 Connector B0113
From control processing	->	Bit7	=1, Excitation current loop I component reaches limit value, high level active	Status word 3 bit7 connector B0114
From control processing	->	Bit8	=1, Additional torque enable, active high	Status word 3 bit8 connector B0115
From control word1	->	Bit9	Free stop, effective level according to P86 19.F	Status word 3 bit9 connector B0116
From control processing	-	Bit10	=1, Stacked Auxiliary Frequency Give 1 Limit Reach, Active High	Status word 3 bit10 connector B0117
From control processing	-	Bit11	=1, Speed setpoint reached, active high	B0118
From control processing	-	Bit12	=1, Comparison frequency reached, active high	connector B0119
From control processing	-	Bit13	=1, Inhibit drive operation, active high	Status word 3 bit13 Connector B0120
From control processing	->	Bit14	=1, Stacked auxiliary frequency given 2 limit arrivals, active high	Status word 3 bit14 Connector B0121
Reserve	->	Bit15	reserve	

EC750/1-029 Status word 3


			Status word 4 r3808 Connector for status word 4		
	Bit num	meaning	W0260		
From alarm	BitO	=1, Motor over-temperature alarm	Connector B0127		
From fault processing	Bit1	=1, Motor over-temperature fault	Bolize		
From control	Bit2	=1, Prepare for start-up	Connector B0150		
From control processing	Bit3	=1, Main contactor on	Status word 4 bit3 connector B0151		
From control processing	Bit4	=1, Minimum voltage controller activation	Status word 4 bit4 connector B0152		
From fault processing	Bit5	=1, Inverter over-temperature fault	Status word 4 bit5 Connector B0153		
	Bit6	reserve			
	Bit7	reserve			
	Bit8	reserve			
	Bit9	reserve			
	Bit10	reserve			
	Bit11	reserve			
	Bit12	reserve			
	Bit13	reserve			
	Bit14	reserve			
	Bit15	reserve			

EC750/1-030 Status word 4









EC750/1-033(02)

Free function block (bit connector to word connector) (02)





















EC750/1-039





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3 limiters (single word)









Analogue signal switch (single word)













EC750/1-041(01)

Free function blocks (analogue signal switches, multiplexers) (01)



EC750/1-041(02)

Free function blocks (analogue signal switches, multiple selectors) (02)



Three-input and gate unit



EC750/1-043(01)

Free function blocks (with, or units) (01)

Three-input or gate unit



EC750/1-043(02)

Free function blocks (with, or units) (02)



EC750-044(01) Free function blocks (inverse, and non-, different or, digital signal selection, etc.) (01)





EC750/1-044(02)

2 D-trigger



EC750/1-045(01) Free function blocks (D-trigger, RS-trigger) (01)



trigger) (02)

EC750/1-045(02)





EC750/1-046(01)



Free Function Block (Logic Delayer) (02)

EC750/1-046(02)

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EC750/1-047



EC750/1-048 Connector observation



Coil number minus 1 is the address value of the coil in Modbus inform ation frame, for example, coil 001 is addressed as 0, coil 064 is addressed as 63.

EC750/1-049(01)

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EC750/1-050(01) Drive-to-drive communication (reception) (01)



Drive-to-drive communication (send) (02)

EC750/1-050(02)







3、 Fault and alarm diagnostics and protection functions

The contents of this chapter are:

> All fault/alarm messages Possible causes and corrective measures

> List of inverter/frequency converter failsafe functions This section lists all faults and alarm messages, including possible causes and This section lists all faults and alarm messages, including possible causes and corrective measures.

Malfunctions

Faults in the EC750/ 1 frequency converter/inverter can be divided into two categories, one is over-voltage, over-current, under-voltage and power module over-current faults, which immediately block the PWM output when the fault occurs and have a higher priority; all other faults belong to the other category, which follows the principle of whoever detects a fault in the PWM output can be divided into two categories. category, which follows the principle of whoever detects af all in the PWM output can be divided into two categories. category, which follows the principle of whoever detects first reports first, and records the bus voltage at the time of the last eight faults and the last three faults, It also records the bus voltage, output current, frequency, input terminal status, output terminal status, inverter status, power-on time and operation time of the last eight faults. It also records the bus voltage, input terminal status, output terminal status, inverter status, power-on time and operation time of the last eight faults. It also records the bus voltage, output terminal status, output terminal status, inverter status, power-on time and operation time of the last eight faults. It also records the bus voltage, output terminal status, output terminal status, inverter status, power-on time and operation time of the last eight faults.

Fault Code	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
			There is a ground or short circuit in the output circuit of the inverter.	Test external wiring and troubleshoot external problems
			Mismatch between motor power and inverter power	Seek technical support to select a frequency converter that matches the motor's power.
		The drive output current is too high, exceeding the software overcurrent	Acceleration time too short	Increase P1602.F acceleration time appropriately.
1	1 Inverter		Motor parameters are not recognised when the control	Setthemotorparametersaccordingtothemotor
overcurrent	point, or the output current has reached the	mode is vector control.	nameplate and perform motor parameter	

Fail-safe function list for frequency converters/inverters

	inverter hardware range.	design		identification.
			In case of V/F control, the torque is increased or the V/F curve is not set appropriately.	Adjusting the Torque Boost or V/F Curve
			Motor overload	Reduce motor load
			Starting of rotating motors	Select speed tracking start or wait until the motor stops before starting.
			Parameter P4905.F Drive The software overcurrent protection is set to fault and the current value detected by the software reaches the software overcurrent point.	F Adjustable software overcurrent protection strategy with parameter P4905.
			External interference or drive board Hall device abnormality.	Troubleshoot the source of the interference and seek technical support if the device is abnormal.
Fault Code	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
---------------	---	---	---	--
			Static or transient overvoltage of the input power supply	Adjust external voltage input to normal range
		The	Deceleration time too short	Appropriate increase in P1603.F deceleration time
2	DC bus overvoltage	intermediate circuit DC voltage is too	No braking unit or braking resistor, or too small a size.	Selection of suitable braking units and braking resistors
		high, exceeding the software	Motor operation with external drag force	In addition, the elimination of force
	overvoltage point or reaching the design range of the inverter hardware.	Function code P4906.F The driver software overvoltage protection is set to fault and the bus voltage detected by the software reaches the software overvoltage point.	Adjustable parameter P4906.F adjusts the software overvoltage protection strategy.	
	phase imbalance	DC bus DC loop undervoltage, current bus voltage is below	Input power supply too low or mains disconnected.	Check the power supply
4			Power supply out of phase	Check the wiring of each phase of the input power supply
		undervoltage point or within	Abnormal bus voltage	Seeking technical support
	the hardware undervoltage design range.	Rectifierbridge,snubberresistor,driver board, controlboard abnormality	Seeking technical support	
			One phase of the three-phase input supply voltage is lost.	Check the wiring of each phase of the input power supply
6	Input out of phase	Three-phase input power abnormal.	Parameter P4901.F Drive Input phase loss protection set to fault and software detects an input phase loss signal	configurable parameter P4901.F Adjust the driver input phase loss protection strategy

			Rectifier bridge, driver board, control board abnormalities	Seeking technical support
			There is a phase break between the inverter output line and the motor input.	Check the connection between the inverter output and each phase of the motor.
7	Output	The unbalance	motor failure	Detecting motor disconnection
	Out-of-Phase three-phase output current is too large.	three-phase output current is too large.	Three-phase output imbalance of inverter during motor operation	Check the three-phase winding of the motor for proper functioning.
			Parameter P4902.F Drive Output out-of-phase protection is set to fault and the software detects an output out-of-phase signal.	configurable parameter P4902.F Adjusts the driver output out-of-phase protection strategy

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
			Driver board or IGBT module abnormality	Seeking technical support
8	Power module	Inverter output current is too high and	There is a ground or short circuit in the output circuit of the inverter.	Troubleshoot peripherals, test external wiring
	overcurrent	exceeds the threshold set by the hardware on the power board.	Output current too high External interference or loose internal connector	Check if the load is too heavy Troubleshoot the source of the interference and seek
				technical support if the connector is loose.
			fan failure	Replacement of the fan
			Obstructed air circulation	Cleaning of air ducts, etc.
	Inverter module overheating	Radiator over-temperatu re. The	Radiator dust build-up	Cleaning radiators
9			High ambient temperature	Reduced ambient temperature
		reaches or exceeds the threshold.	Excessive motor load	Reducing the motor load or selecting a suitable frequency converter
			Module thermistor damaged	Replacing the module thermistor can Seek technical support
			fan failure	Replacement of the fan
		Heavy duty	Obstructed air circulation	Cleaning of air ducts, etc.
10	Rectifier	18.5kW power band and above rectifier	Radiator dust build-up High ambient	Cleaning radiators Reduced ambient
	overheating	above, rectiner module sensor detected temperature greater than	Excessive motor load	Reducing the motor load or selecting a suitable frequency converter
		temperature fault threshold.	Module thermistor damaged	Replacing the module thermistor can Seek technical support
			Load duty/clearance cycle time exceeds specified allowable value	Operation according to the inverter's load carrying capacity

2 C				
		The duty/clearance cycle time does	Motor power (P0401.M) exceeding the load capacity of the inverter	Choosing the right inverter
11	Frequency converter overload	not comply with the requirements or the motor power (P0401.M) exceeds the load capacity of the frequency	Parameter P4903.F Drive overload detection protection is set to fault and the software-calculated duty/gap cycle time of the load exceeds the specified permissible value	Adjustable parameter P4903.F Adjustment drive overload detection protection strategy
		Motor	Excessive motor load	Reduced motor load
12	12 Motor over-temperatur	temperature exceeds	Motor cooling fan abnormal operation	Switch on or check the operation of the motor cooling fan.
		temperature fault value.	Damaged motor thermistor	Replace motor thermistor

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
			Improper setting of the motor temperature fault value in parameter P0422.	Correctly set parameter P0422.M Motor temperature fault value
			Parameter P4973.F Motor overheat fault protection is set to fault and the software detects that the motor temperature has exceeded the fault setting.	configurable parameterP4973.FAdjus tment of motor overheating fault protection strategy
			Motor jammed	Check that the motor is running properly
		The motor or	overloaded	Reduce motor load
13	motor stalling	mechanical device is	Motor power mismatch	Selection of matching inverters and motors
		blocked and the motor is running in the blocking zone.	The parameters related to blocking are not reasonably set.	Set function codes P4912.F-P4914.F to adjust the blocking protection strategy according to site requirements.
15	Encoder reverse	Detects that the given speed is	Coded line number phase A is opposite to	Check the encoder wiring to ensure it is correct
		direction as the speed feedback from the code disc.	В.	Modify P0428.M Encoder Orientation Selection
		Encoder break detection time	Encoder signal not sent to control board	Check encoder wiring
16	Encoder disconnection	(P4915.F) Pulse signal is not	No power supplied to the encoder	Check encoder power supply and wiring
		captured by the control board.	Damaged encoder	Replacement of encoder

		Motor speed exceeds the	No parameter identification	Identification of motor parameters
17	Motor overspeed fault	upper frequency limit (P0204.F) or	Torque control mode is used where torque control is not applicable.	Determine if torque control is applicable to the site conditions.
	(P0205.F) 120% the correspondi speed.	(P0205.F) 120% of the corresponding speed.	Incorrect encoder parameterisation	Setting the encoder parameters correctly
10	Deremeter	Function code	Mismatch between motor parameters and inverter parameter inputs	Correct setting of motor parameters and frequency converter parameters
18	setting fault	parameter setting Out of range.	Function code parameter setting exceeds upper and lower limits	Parameters can be changed to appropriate values by checking the parameter fault list function on the host computer.
				Restore parameters to factory values
19	Parametric fault identification	The identification of the motor parameters was not completed successfully.	Wrong motor or inverter wiring	Check motor and inverter wiring

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
			When dynamic parameter recognition is selected, the motor is blocked.	Troubleshooting the cause of motor blockage
			Incorrect setting of basic motor parameters	Set the parameters correctly according to the motor nameplate P0401.M~P0406.M
20	Contactor abnormality	Contactor does not close after bus voltage is	Abnormal wiring or power supply to the power-up buffer and contactor circuits.	Test the power-up buffer and contactor circuit wiring and power supply.
		established.	Driver board abnormality Contactor abnormality	Replacement of the driver board Replacement of
21	Current Detection Circuit Abnormal	The current offset of either channel during power-up or standby exceeds a certain threshold.	Hall device damageCurrentdetectioncircuit abnormalityParameterP4904.Fcurrentdetectionprotection is set tofaultandthesoftwaredetectsthatthefaultfault	Seeking technical support
22	Analogue	Analogue input 1 enables when the input signal is 4~20mA.	Function selection P2102.F for analogue channel 1 does not correspond to the external input.	Determine the external input signal as 4-20mA
	disconnected	The inverter detects a signal less than the set	Analogue input 1 wiring abnormality	Check that analogue input 1 is wired correctly
		threshold during operation.	Parameter P4971 .F Analogue input failsafe is set to fault and the software detects that a fault condition has been met.	The analogue input failsafe strategy can be adjusted with parameter P4971 .

	Analogue input 2	Analogue input 2 enables when the input signal is 4-20mA.	Function selection P2119.F for analogue channel 2 does not correspond to the external input.	Determine the external input signal as 4-20mA
23	disconnected	The inverter detects a signal	Analogue input 2 wiring abnormality	Check analogue input 2 connection is normal
		threshold during operation.	Parameter P4971 .F Analogue Input Fail Safe is set to Fault and the software detects that a fault condition has been met.	The analogue input failsafe strategy can be adjusted with parameter P4971 .
26	EEPROM failure	EEPROM device An error	Error reading or writing EEPROM	Shut down and restart, if the problem still occurs, seek technical support.
		occurred during verification.	Parameter P4968.F EEPROM Fail Safe is set to Fault and the software detects that the fault condition is met.	configurable parameter P4968 .F Adjusting the EEPROM Fail-Safe Strategy
27	External fault 1	External fault 1 corresponds to the switching input surge.	Equipment has external faults	Check for external faults and troubleshoot the cause of the faults.

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
		See Control Word Parameter P3817.	Abnormal wiring of the corresponding switching input cables	Check the corresponding switching input lines
			Parameter P4969 .F External fault protection is set to fault. and the software detects that a fault condition has been met	Parameter P4969.F can be set to adjust the external fail-safe strategy.
		The switching	Equipment has external faults	Check for external faults and troubleshoot the cause of the faults.
28	28 External fault 2 corresponding to external fault 28 External fault 2 corresponding 28 to external fault 2 are activated,	Abnormal wiring of the corresponding switching input cables	Check the corresponding switching lines	
		see control word parameter P3823.	Parameter P4969 .F External fault protection is set to fault. and the software detects that a fault condition has been met	Parameter P4969.F can be set to adjust the external fail-safe strategy.
		The inverter output current is detected to be	Load loss or reduction during inverter operation	Checking the load condition during inverter operation
29	Frequency converter off-loading	lower than the load shedding protection during the load shedding detection time P4931.	Improper setting of inverter load shedding protection parameters	Adjustment function codes P4929.F -P4931 .
		Detection level P4930.F.		

		When the brake	Abnormal holding line	Detecting the holding line is normal
30	Holding brake won't open Trouble	condition is met, the brake is detected to be closed for a	Parameter P4970.F Brake failure protection is set to fault.	Adjustable parameter P4970 .F Adjustment of the brake fault
		set time.	and the software detects that a fault condition has been met	protection strategy
	Holding brake	When the brake closure	Abnormal holding line	Detecting the holding line is normal
31	31 Holding brake won't close Trouble condition is met, the brake is detected to be open for the set time.	Parameter P4970.F Brake failure protection is set to fault. and the software detects that a fault	Adjustable parameter P4970 .F Adjustment of the brake fault protection strategy	
			condition has been met	
32	short-circuit fault to ground	Output shorted to ground.	Output shorted to ground	Check for leaks in the cable, if the motor cable is too long, add a reactor.
33	DP communication failure	After starting DP communication, it is detected that no valid data is received within the timeout time setting.	Profibus DP slave address (parameter P4303) not set correctly	Check the DP slave setting address Is the slave address within the range of slave addresses included in the master configuration and is the slave address unique in the DP
				network?

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
			Abnormal DP communication line connection	Check that the DP communication line and the DP plug are connected properly and that the DP plug termination resistor is connected as required.
			DP master not working properly	Check whether the DP master configuration Normal, DP master power supply normal, DP master normal operation
			PROFIBUS-DP communication Expansion board works abnormally.	Check that the DP communication board is properly powered, if it is damaged, seek technical support.
			Improper setting of parameters related to MODBUS communication.	Confirmation of parameter P4601.F - Is P4606.F correctly set?
		After starting MODBUS	MODBUS communication line connection abnormality	Check for loose MODBUS wiring and correct wiring sequence.
34	MODBUS communicati on Error	communication, it was detected that no valid data was received within the timeout set value.	MODBUS host device working abnormally	Check MODBUS master group state is normal, the MODBUS master power supply is normal, the Is the MODBUS master running normally?
			The communication timeout time (parameter P4607.F) is set too short.	Setting the appropriate communication timeout (parameter P4607.F)
			MODBUS Communication Expansion Board Abnormal operation	Check the MODBUS expansion board for proper power supply and seek technical support if it is damaged.

	35 Drive-to-Drive Communicati on Failure Drive-to-Drive Communicati on Failure Drive-to-Drive communicati that valid d not rec	After starting	Driver-to-driver communication parameter setting abnormality	Correctly set drive-to-drive communication related parameters P4801.F - P4805.F
35		driver-to-driver communication, it is detected that valid data is not received	ver on, Driver-to-driver ted communication line ta is connection ved abnormality	Check drive-to-drive communication wires for looseness and proper wiring sequence.
		within the time time setting.	Abnormal communication between the driver and other devices in the driver network.	Check that the entire drive is working properly for each device in the drive communication network.
			The communication timeout time (parameter P4805.F) is set too short.	Setting the appropriate communication timeout (parameter P4805)
36	Inverter module temperature Sensor disconnection	Inverter module temperature sensor during operation	Inverter Module Temperature Sensor Wiring Abnormal	Check inverter module temperature sensor wiring

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
		Disconnect.	Damaged thermistor	Replace thermistor, seek technical support
37	Inverter module	Inverter module temperature	Inverter Module Temperature Sensor Wiring Abnormal	Check inverter module temperature sensor wiring
	temperature Sensor short circuit	short-circuited during operation.	Thermistor short circuit	Replace thermistor, seek technical support
38	Rectifier	Rectifier module temperature sensor disconnected during operation.	Rectifier Module Temperature Sensor Wiring Abnormal	Check rectifier module temperature sensor wiring
	temperature Sensor disconnection		Damaged thermistor	Replace thermistor, seek technical support
39	Rectifier 39 module	Rectifier module temperature sensor short-circuited during operation.	Rectifier Module Temperature Sensor Wiring Abnormal	Check rectifier module temperature sensor wiring
	temperature Sensor short circuit		Thermistor short circuit	Replace thermistor, seek technical support
			Adjust PI parameters appropriately	Adjustment P0702.F-P0706.F
40		In vector control, the	Incorrect encoder parameterisation	Setting the encoder parameters correctly
	Excessive speed deviation	absolute value of the speed deviation is set at the set time P4938.F	The speed deviation is too large The relevant parameters P4936.F-P4938.F are not set correctly.	Correctly set speed deviation too large Relevant parameter P4936.F - P4938.F
		is too large.	No parameter identification	Parameter identification of motor parameters

41	PROFINET communicatio n failure	After starting PROFINET communication, it is detected that no valid signal is received within the timeout set value.	Improper setting of PROFINET-related parameters	Check whether the device name, IP address, subnet mask and default gateway of each device are the same as the configuration of PLC, and whether the MAC address of each device is unique; if the relevant parameters are modified after communication is enabled, it is necessary to restart the inverter with power off.
			PROFINET communication line Connection abnormality	Check PROFINET communication cables and plugs for proper connection.
			PROFINET master is not working properly.	Check that the PROFINET controller is configured correctly, that the power supply is working correctly and that it is operating correctly.
			PROFINET communication expansion board works abnormally.	Check the PROFINET communication board for proper power supply, if it is damaged, seek technical support.

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
43	Friction Characteristic s Curve Identify Timeout	During the recognition process, a timeout fault is reported when the actual operating speed differs significantly from the given speed and the speed and the speed and the speed steady state cannot be entered for a long time (the feedback speed does not fall within the error range of the given speed for a long period of time) then a recognition timeout fault is	Adjust PI parameters appropriately Sag Control Enable Incorrect encoder parameterisation No parameter identification	Adjustment P0702.F-P0706.F P3301.B sag control enable Disable Setting the encoder parameters correctly Parameter identification of motor parameters
44	USB communication failure	Detected on the host computer USB communication is not received for a certain	The software on the host computer is not working properly writings or works Computer fails to recognise inverter appliances USB cable not working properly USB port damaged	Restart the host computer Correct installation of the driver Replace the USB cable to ensure proper connection Seeking technical support

		period of time. Effective data.	Function code P4911.FUSB Communication protection is set to old. obstacles, but there are currently no	The USB communication protection strategy can be adjusted with parameter P4911.
			Connecting to the host computer for communication	
45	DP communicatio n board interface Failure	After DP communication is initiated, the communication board expansion interface (i.e., the interface between the control board and (PROFIBUS-DP communication	PROFIBUS-DP communication board and control board connection anomaly Abnormal operation of the control board PROFIBUS-DP communication Expansion board works abnormally.	Check that the PROFIBUS-DP communication board is correctly connected to the control board. If damaged, seek technical support Check that the DP communication board is properly powered, if it is damaged, seek technical support.
		board port) Communication abnormality.		
46	Motor overload	The motor load exceeds the permissible range for a certain period of time.	Inappropriate setting of motor protection parameters	Correctly set function codes p0418.m- p0419.m, p0429.m- p0430.m, p0432.m- p0433.m

Faul t Cod e	Fault name	fault description	Troubleshooting	Troubleshooting Countermeasures
			Excessive motor load	Reduced motor load
			motor stalling	Checking the mechanical condition of the motor
			F motor overload protection is set to fault and the software detects that the fault condition is fulfilled	The motor overload protection strategy can be adjusted with parameter P4965.
47	CPLD Product Family mismatch	The CPLD program version is not the same as the	Mismatch between CPLD program version and DSP program version	Seeking technical support
		DSP program version. Match.		
48	Ambient	Environment during operation	Ambient temperature sensor wiring abnormality	Check ambient temperature sensor wiring
	temperature sensing	Temperature sensor break	Damaged thermistor	Replace thermistor, seek technical support
	disconnected	Open.		
49	Ambient temperature	Environment during operation	Ambient temperature sensor wiring abnormality	Check ambient temperature sensor wiring
	sensing short circuit	Temperature sensor short	Thermistor short circuit	Replace thermistor, seek technical support
		Road.		

Alarms act as a warning to the user, they cannot be reset and are automatically removed once the cause of the alarm has been removed. If several alarms exist at the same time, the display will cycle.

Alarm diagnosis and processing

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
			There is a ground or short circuit in the output circuit of the inverter.	Test external wiring and troubleshoot external problems
1	Frequency converter overcurrent	The output current of the inverter is too	The power of the motor does not match the power of the inverter.	Seek technical support to select an inverter that matches the motor power.
		the software overcurrent point.	Acceleration time too short	Increase P1602.F acceleration time appropriately.
			Motor parameters are not recognised when the control mode is vector control.	Set the motor parameters according to the motor nameplate and identify the motor
				parameters.
			When the control mode is V/F. the turn	Adjusting torque boost or V/F curve

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
			Moment boost or V/F curve not set appropriately	threads
			Motor overload	Reduce motor load
			Starting of rotating motors	Select speed tracking start or wait for motor to stop before starting.
			Parameter P4905.F Drive software overcurrent protection is set to alarm and the current value detected by the software reaches the software overcurrent point.	Settable parameter P4905.F Adjusting the software overcurrent protection strategy
			Static or transient overvoltage of the input power supply	Adjust external voltage input to normal range
			Deceleration time too short	Appropriate increase in P1603.F deceleration Time
2	DC bus overvoltage	C bus vervoltage is too high, exceeding software overvoltage point.	No braking unit or braking resistor, or too small a size.	Selection of suitable braking units and braking resistors
			Motor operation with external drag force	In addition, the elimination of force
			Function code P4906.F drive Software overvoltage protection is set to alarm and the bus voltage detected by the software reaches the software overvoltage point	Adjustable parameter P4906.F adjusts the software overvoltage protection strategy.
4	Input phase failure alarm	Abnormal three-phase input power.	See Input phase failure, protection can be set with parameter P4901.	See Input phase loss fault.

5	Output phase failure alarm	The unbalance of the three-phase output current is too large.	See Output phase failure, protection can be set via P4902.F.	See Output Out-of-Phase Fault.
			fan failure	Replacement of the fan
	Inverter 6 Module	Inverter module over-temperature. The temperature reaches or exceeds the	Obstructed air circulation	Cleaning of air ducts, etc.
6 Module Over Temperatur e			Radiator dust build-up	Cleaning radiators
	Over Temperatur		High ambient temperature	Reduced ambient temperature
	alarm threshold.	Excessive motor load	Reducing the motor load or	
				selecting a suitable frequency converter
	Rectifier Module	Rectifier module over temperature. Temperature	fan failure	Replacement of the fan

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
7	overheating	Thealarm threshold is reached or	Obstructed air circulation	Cleaning of air ducts, etc.
		exceeded.	Radiator dust build-up	Cleaning radiators
			High ambient temperature	Reduced ambient temperature
			Excessive motor load	Reducing the motor load or selecting a suitable frequency converter
8	Frequency converter overload	The duty/clearance cycle time does not comply with the requirements or the motor power (P0401.M) exceeds the load capacity of the frequency converter.	See Overload faults of the frequency converter, the protection function can be set via parameter P4903.	See Inverter Overload Fault.
9	motor stalling	The motor or mechanical equipment is stalled and the motor is running in the stalling zone.	See motor blocking faults, protection function can be set via parameter P4912.	See Motor Blocking Faults.
12	Load Loss Alarm	The frequency converter output current is detected to be below the dropout protection detection level P4930.F during the dropout detection time P4931.F. The frequency converter output current is not detected to be below the dropout protection detection level	See Inverter dropout fault, protection function, which can be set via parameter P4929.F.	See inverter dropout fault.

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13	Disconnecti on when analogue input 1 is a current signal	Analogue input 1 is enabled, when the input signal is 4~20mA, the signal detected in the inverter standby is less than the set threshold.	See Analogue input 1 disconnection fault, which can be set with parameter P4971.F.	See Analogue input 1 disconnection fault
14	Disconnecti on when analogue input 2 is a current signal	Analogue input 2 enable, when the input signal is 4~20mA, the inverter : In standby detects the signal is less than the set threshold.	See Analogue input 2 disconnection fault, which can be set with parameter P4971.F.	See Analogue Input 2 Disconnection Trouble
1 Loss of motor 15 temperature test signal	When motor temperature detection is	Motor temperature connection wire disconnected	Check the motor temperature connection wire for proper functioning.	
	test signal	enabled, an open or short circuit is detected at the terminal.	Motor temperature connection wire short circuit	Check the motor temperature connection wire for proper functioning.

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
			Damaged detection circuit	Seeking technical support
			Excessive motor load	Reduced motor load
	Motor	Motor temperature	Damaged motor thermistor	Replace motor thermistor
16	temperature alarm	exceeds P0421.M Motor temperature alarm value.	M Motor temperature The alarm value is not set correctly.	Correctly set parameter P0421.M Motor temperature alarm value
			ParameterP4973.FMotoroverheatingfailsafe is set to alarmandthesoftwaredetects that the motortemperaturehasexceededthealarmsetting.	Adjustable parameter P4973.F Motor overheating fault protection strategy
17	External alarm 1	The switching input corresponding to external alarm 1 is activated, see control word parameter P3816.	The device has an external alarm	Check for external alarms and troubleshoot the cause of the alarm.
			Abnormal wiring of the corresponding switching input cables	Check the corresponding switching input lines
18 Exter alarm	External alarm 2	The switching input corresponding to external alarm 2 is arm 2 activated, see control word parameter P3822.	The device has an external alarm	Check for external alarms and troubleshoot the cause of the alarm.
	aiarm 2		Abnormal wiring of the corresponding switching input cables	Check the corresponding switching input lines

19	DP Communica tion Anomaly	After starting DP communication, no successful connection to the bus is detected.	See DP communication faults, protection function can be set via parameter P4907.F	See DP communication failure.
20	Serial Communicati on Abnormal	After starting MODBUS communication, it is detected that no valid data has been received within the timeout set value.	See MODBUS communication faults, protection function can be set via parameter P4908.F	See MODBUS communication failure.
21	DP Bulletin Board	After starting DP communication, detect	Abnormal connection between PROFIBUS-DP communication board and control board.	Check that the connection of the PROFIBUS-DP communication board to the control board is

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
	interface exception	Communication anomalies to the communication board expansion interface (i.e., the port where the control	PROFIBUS-DP communication Expansion board works abnormally.	incorrect Check that the DP communication board is properly powered, if it is damaged, seek technical support.
		PROFIBUS-DP communication board).	Abnormal operation of the control board	If damaged, seek technical support
22	Inverter Module Temperatur e Sensor Disconnecti on	The inverter module temperature sensor is disconnected during standby.	See Inverter Module Temperature Sensor Disconnect Failure	See Inverter Module Temperature Sensor Disconnect Failure.
23	Inverter Module Temperatur e Sensor Short Circuit	Inverter standby Short circuit in the inverter module temperature sensor.	See Inverter Module Temperature Sensor Short Circuit Failure	See Inverter Module Temperature Sensor Short Circuit Failure.
24	Rectifier Module Temperatur e Sensor Disconnecti on	The temperature sensor of the rectifier module is disconnected during standby of the inverter.	See Rectifier Module Temperature Sensor Disconnect Failure.	See Rectifier Module Temperature Sensor Disconnect Failure.
25	Rectifier Module Temperatur e Sensor Short Circuit	Rectifier module temperature sensor short-circuited during inverter standby.	See Rectifier Module Temperature Sensor Short Circuit Failure.	See Rectifier Module Temperature Sensor Short Circuit Failure.
26	Excessive speed deviation	In vector control, the absolute value of the speed deviation is continuously too large within the setting time	See speed deviation fault, protection function can be set via parameter P4936.F	See also the excessive speed deviation fault, which can be set via parameter P4936.F.

		P4938.		
27	Restart	Alerts the user	Ramees P3304.F-P3305.F are not set correctly.	Setting Parameters P3304.F-P3305.F Modifying the Attributes of the Function
27	function is effective	that the restart function has been activated.	The restart function has been activated.	If the current alarm is valid, the user can click STOP to cancel the startup function, during the restart wait time P3305.F, if the frequency converter runs the command, the alarm will be cancelled.

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
				Alarms are automatically cleared when activated by a command.
28	Control panel winds fan abnormality	Control board fan running differently Regular.	Abnormal control board fan circuit or damaged fan.	Seeking technical support
29	environment al temperature sensor break threads	Ambient temperature sensor break Open.	See Ambient Temperature Sensor Disconnect Fault	See Ambient Temperature Sensor Disconnect Fault.
30	environment al temperature Sensor short kind	Ambient temperature sensor short Road.	See Ambient Temperature Sensor Short Circuit Fault	See Ambient Temperature Sensor Short Circuit Fault.
31	Drive-to-driv e communicat ion anomalies	After starting the driver and communicating with the driver, it is detected that no valid data has been received within the timeout time setting.	See Drive-to-Drive Communication Error. The protection function can be modified by modifying parameter P4909.	See Drive-to-Drive Communication Error.

	Fibre	After starting fibre optic	Abnormal connection between fibre optic communication board and control board	Check that the fibre optic communication board is correctly connected to the control board.
32	opticcommunication,communicommunicationcationabnormalityboarddetected on theinterfaceexpansionanomalyinterface of the	Fibre optic communication board working abnormally	Check that the fibre optic communication board is properly powered and seek technical support if it is damaged.	
		communication board (i.e. the port connecting the control board to the fibre optic communication board).	Abnormal operation of the control board	Check that the control board is properly powered, if it is damaged, call for technical support
		During the	Adjust PI parameters appropriately	Adjustment P0702.F-P0706.F
	Abnormal 33 friction characteristi c curve record	identification process, when the friction characteristic curve records an abnormal order of	Sag Control Enable	P3301.B sag control enable Disable
33			Incorrect encoder parameterisation	Set the encoder parameters correctly according to the motor nameplate.
		velocity points, the friction characteristic curve records an overrun, or the friction	No parameter identification	Parameterisation of motor parameters
		characteristic curve records an incomplete, it is reported that the		

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
		Alert.		
	36 PROFINET Configuratio n Exception	After starting PROFINET-IO communication, PROFINET-IO communication board configuration failure is detected.	PROFINET communication parameters are not set correctly.	Set up according to the correct PROFINET communication parameters and ask for technical support for details.
36			PROFINET communication line error.	Connections are made according to the correct PROFINET communication lines, for which technical support is available.
			PROFINET-IO communication board abnormality.	If it powers up properly, if not, seek technical support.
			The communication board expansion interface of the control board is abnormal.	Check the communication board extension of the control board for proper power supply, if damaged, seek technical support.

			PROFINET communication parameters are not set correctly.	Set up according to the correct PROFINET communication parameters and ask for technical support for details.
37	PROFINET network anomaly	After starting PROFINET-IO communication, it is detected that the PROFINET-IO is not	PROFINET communication line error.	Connections are made according to the correct PROFINET communication lines, for which technical support is available.
		successfully connected to the network.	PROFINET controller (PLC) Abnormal.	Check for proper power supply to the PROFINET controller (PLC).
			PROFINET-IO communication board abnormality.	lf not, seek technical support.
38	PROFINET Sending exceptions	After starting PROFINET-IO communication, it is detected that the PROFINET-IO has not been connected.	PROFINET communication parameters are not set correctly.	Set up according to the correct PROFINET communication parameters and ask for technical support for details.

Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
		The function sends data to the network.	PROFINET controller (PLC) Abnormal.	Check for proper power supply to the PROFINET controller (PLC).
			PROFINET-IO communication board abnormality.	lf not, seek technical support.
39	Motor overload	The motor load exceeds the permissible range for a certain period of time.	See also motor overload faults, which can be set via parameter P4965.F Fail-safe	See Motor Overload Faults
40	PROFINET communicati ons anomaly	After starting PROFINET-IO communication, it is detected that the PROFINET-IO is not successfully connected to the network or receiving valid data.	See ROFINET network anomaly	See ROFINET network anomaly
41	current detection circuit abnormality	During power-up or standby, the current offset of any channel exceeds a certain threshold.	See current detection circuit anomaly fault, can be set by parameter P4904.	See Current Sense Circuit Abnormal Malfunction
42	encoder break threads	The control board did not acquire a pulse signal during the encoder break detection time (P4915.F).	See also encoder disconnection faults, failsafe can be set via parameter P4959.	See also Encoder disconnection faults
43	encoder inverse toward	Detects that the given speed is not in line with the direction of the disc feedback speed.	See encoder reverse fault, failsafe can be set via parameter P4966.	See encoder reverse fault

44	Motor overspeed	Motor speed exceeds upper limit frequency (P0204.F) or lower limit frequency (P0205.F) corresponds to 120% of the rpm.	See motor overspeed fault	See motor overspeed fault
45	Parameter setting incorrect	The function code parameter setting is out of range.	See Parameter Setting Error	See Parameter Setting Error
46	External fault 1	Activation of the switching input corresponding to external fault 1, see control word parameters	See external fault 1, which can be set via parameter P4969.	See external fault 1



Alar m Code	Alarm name	Alarm Description	Alarm Cause Detection	Alarm Handling Countermeasures
		P3817.B.	barrier protection	
47	External fault 2	The switching input corresponding to external fault 2 is activated, see control word parameter P3823.B.	See external fault 2, which can be set via parameter P4969.	See external fault 2
48	The holding brake cannot Open faults	When the brake opening condition is fulfilled, the brake is detected as remaining closed for the set time.	Refer to Failure to open the holding brake, set the failsafe via parameter P4970.	Refer to the fault that the holding brake cannot be opened.
49	The holding brake cannot Failure to close	When the brake closing condition is fulfilled, the brake is detected to remain open for the set time.	Refer to Failure of the holding brake to close, failsafe can be set using parameter P4970.	Refer to the holding brake does not close fault
50	Invalid communicati on reception data	Invalid data received for DP or PN communication.	The PLC sends data that does not meet the requirements or the PLC is not working properly.	Check that other devices are receiving data correctly, and if so, seek technical support.